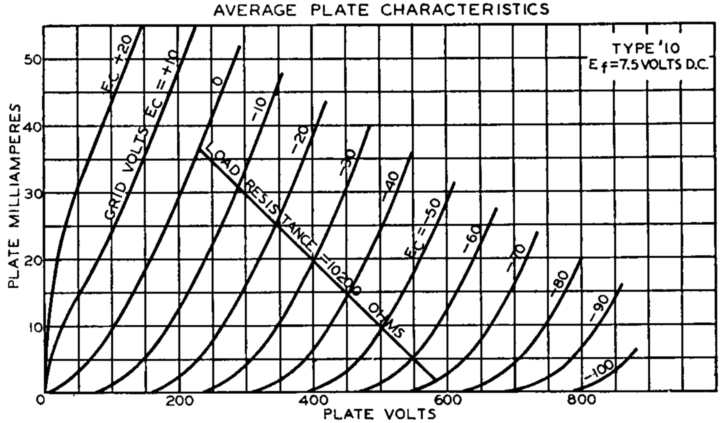
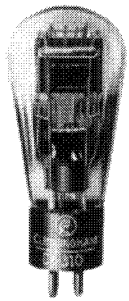
AVERAGE PLATE CHARACTERISTICS



Cunningham RADIO TUBES



CX-310

POWER AMPLIFIER, OSCILLATOR

The type '10 is a three-electrode high-vacuum tube suitable for power amplifier use. As an audio-frequency amplifier, it is capable of delivering large undistorted output to the loudspeaker.

CHARACTERISTICS

Filament Voltage (A. C. or D. C.)			7.5	Volts
Filament Current			1.25	Amperes
Plate Voltage	250	350	425 *max.*	Volts
Grid Voltage*	−22	−31	−39	Volts
Plate Current	10	16	18	Milliamperes
Plate Resistance	6000	5150	5000	Ohms
Amplification Factor	8	8	8	
Mutual Conductance	1330	1550	1600	Micromhos
Load Resistance	13000	11000	10200	Ohms
Undistorted Power Output	400	900	1600	Milliwatts
Grid-Plate Capacitance		8		μμf.
Grid-Filament Capacitance		5		μμf.
Plate-Filament Capacitance		4		μμf.
Maximum Overall Length				5⅝"
Maximum Diameter				2 3/16"
Bulb (See page 42, Fig. 10)				S-17
Base				Medium 4-Pin Bayonet

* Grid voltages are given with respect to the mid-point of filament operated on a.c. If d.c. is used, each stated value of grid voltage should be decreased by 3.75 volts and should be referred to the negative end of the filament.

INSTALLATION

The **base** pins of the '10 fit the standard four-contact socket. The socket should be installed so that the tube will operate in a vertical position with the base down. For socket connections, see page 39, Fig. 1.

The **filament** of the type '10 is usually operated from the a-c line through a step-down transformer. Most satisfactory operating performance of the tube will be obtained at the rated filament voltage.

With an a-c filament supply, the grid and the plate return should be brought either to a mid-tapped resistor of 20 to 40 ohms across the filament winding, or to a mid-tap on the filament winding itself. With a d-c filament supply, the grid and the plate return should be made to the negative filament terminal.

Grid bias for the type '10 may be obtained from a C-supply or by means of the voltage drop in a resistor connected in the negative plate return lead. The latter method is known as the self-biasing method, since the plate current determines the drop. It is not, however, generally applicable to battery-operated receivers.

APPLICATION

As an **audio power amplifier** this tube should be operated under conditions as given under Characteristics. To prevent overloading and distortion, the recommended grid bias should always be used. Average plate characteristics (curves) are given on the preceding page.